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McDonald

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(54) **WASHING APPARATUS FOR CLEANING GAME, FRUIT, VEGETABLES, FISH OR CRUSTACEA IN A CONTAINER**

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Related U.S. Application Data

(63) Continuation-in-part of application No. 15/951,667, filed on Apr. 12, 2018, now Pat. No. 10,780,462, which is a continuation-in-part of application No. 15/409,058, filed on Jan. 18, 2017, now Pat. No. 11,089,789, which is a continuation-in-part of application No. 14/877,519, filed on Oct. 7, 2015, now Pat. No. 10,456,812, which is a continuation-in-part of application No. 14/812,545, filed on Jul. 29, 2015, now Pat. No. 9,408,412, which is a continuation-in-part of application No. 14/550,195, filed on Nov. 21, 2014, now Pat. No. 9,320,286.

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USPC 134/94.1, 102.2, 25.3, 111, 184, 25.1, 134/144, 198, 22.18
See application file for complete search history.

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Primary Examiner — David G Cormier

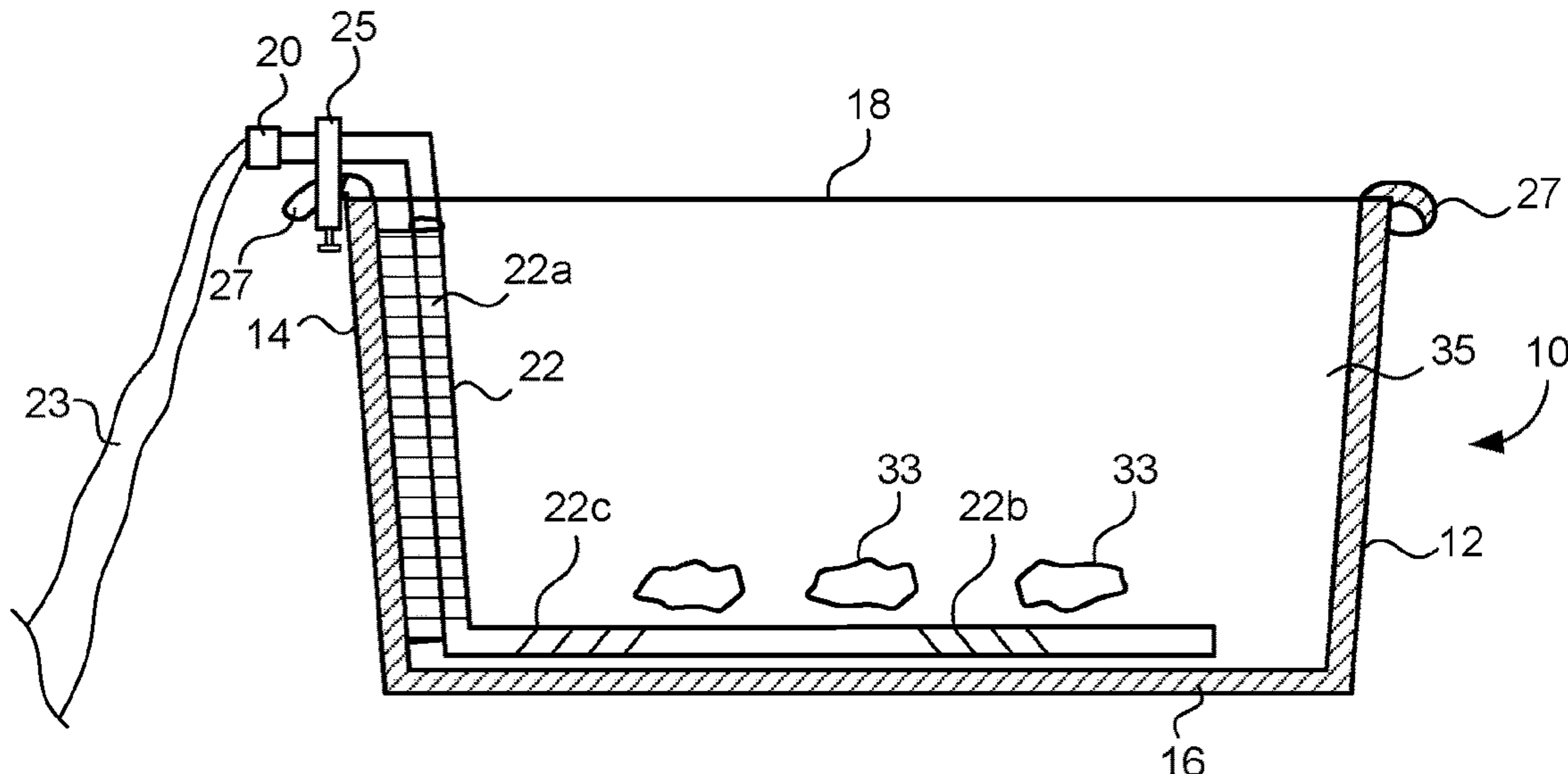
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(57) **ABSTRACT**

An apparatus for cleaning game, vegetables, fruit, fish or crustacea in a container has a pipe with a first and second portion, and a connector connected to the pipe. The second portion extends generally transverse to the first portion. The second portion has a plurality of apertures formed through the wall thereof. The apertures direct the flow of water in a cyclonic path in the container. The connector is adapted to connect with a water hose or water conduit so as to introduce water into and through the pipe. The first portion of the pipe extends generally vertically and the second portion of the pipe extends generally horizontally.

18 Claims, 7 Drawing Sheets



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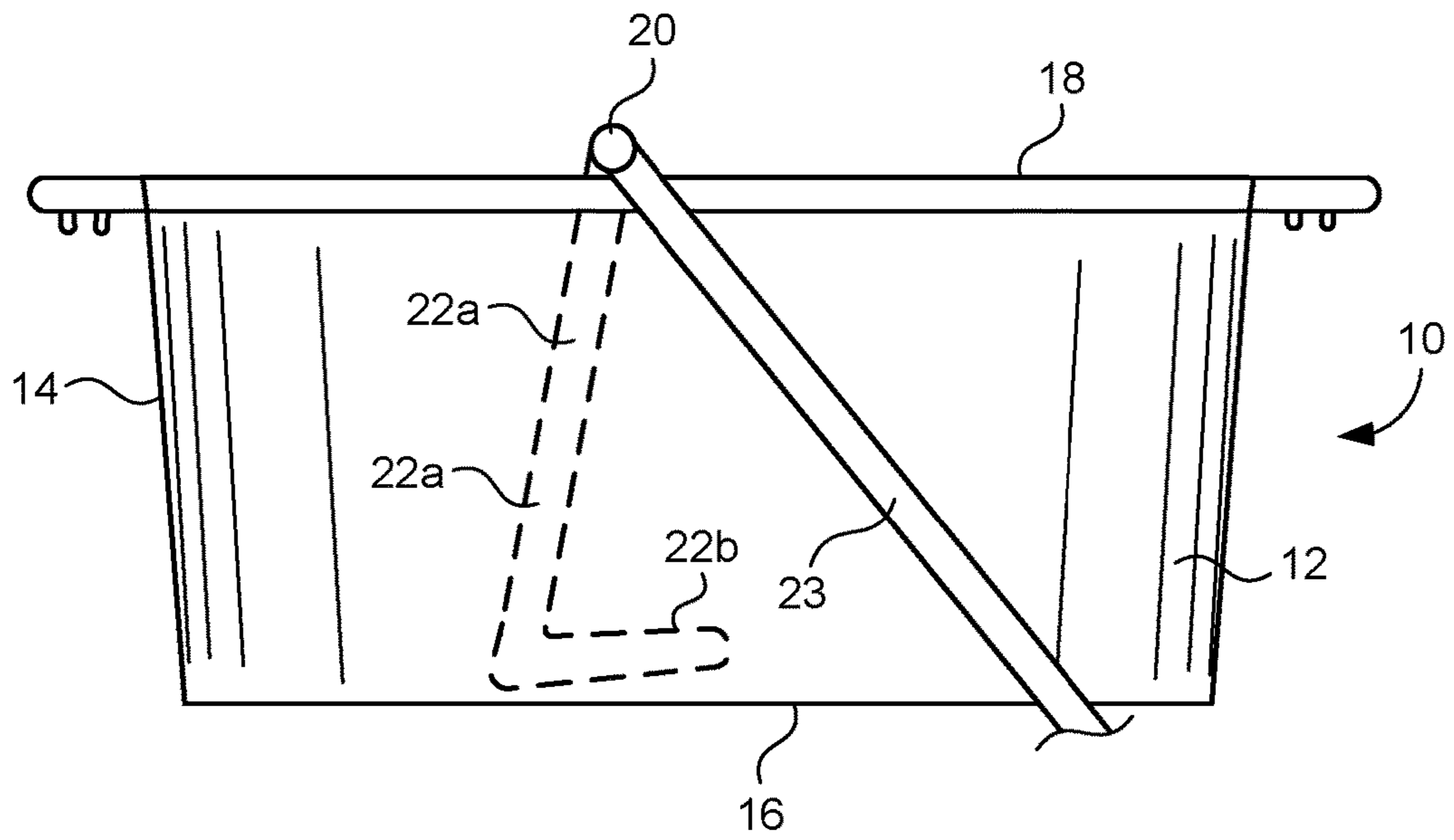


FIG. 1

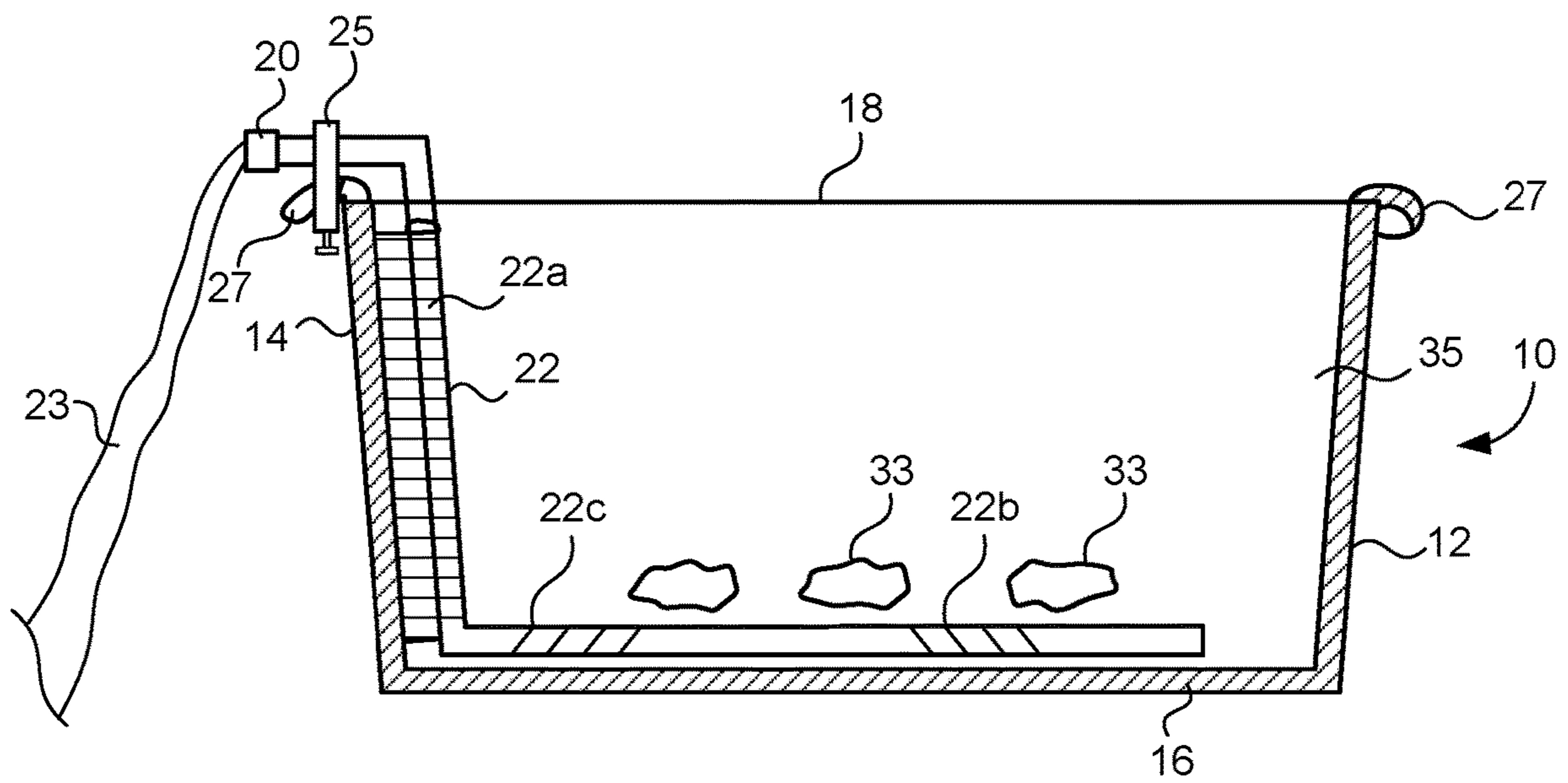


FIG. 2

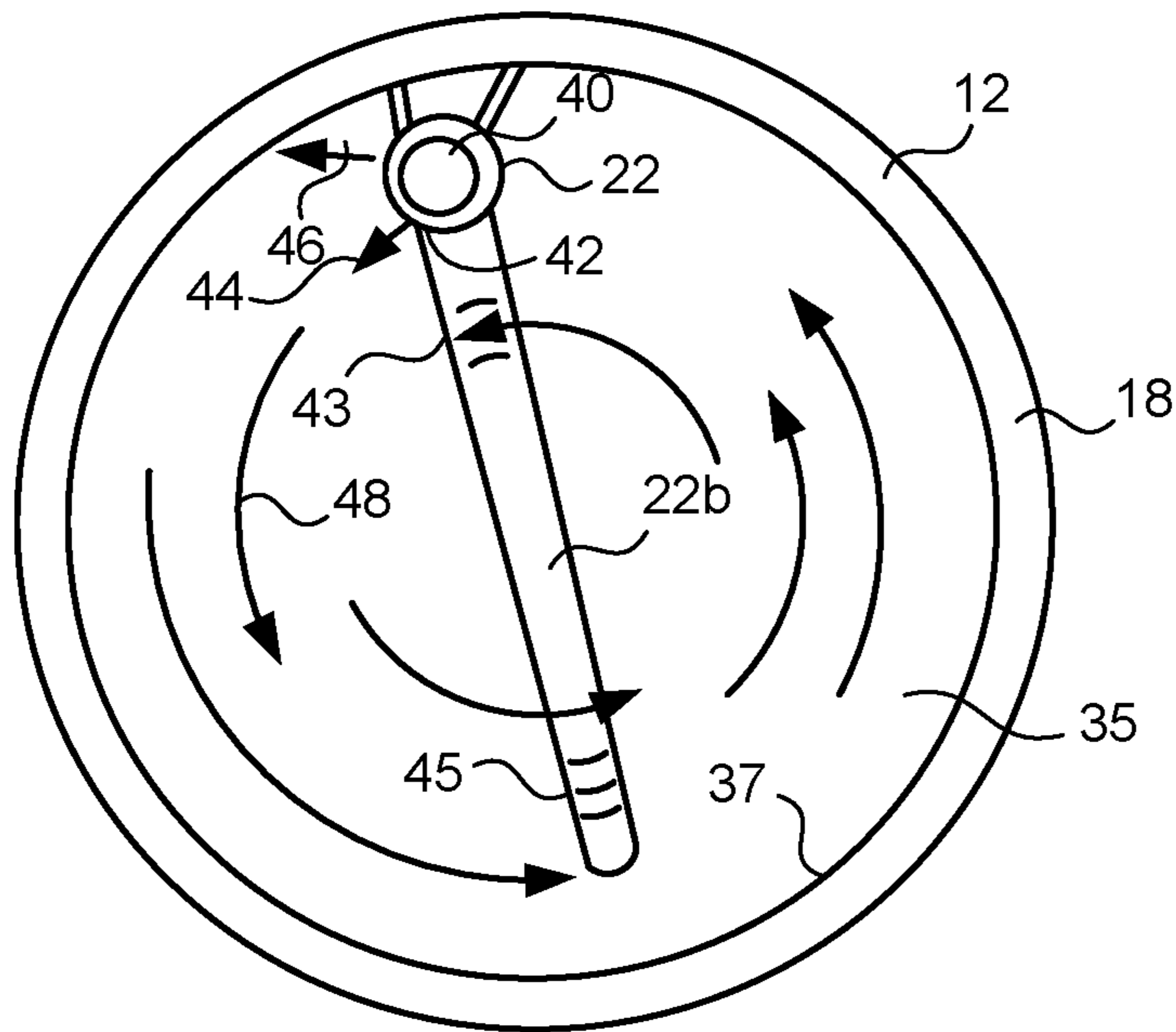


FIG. 3

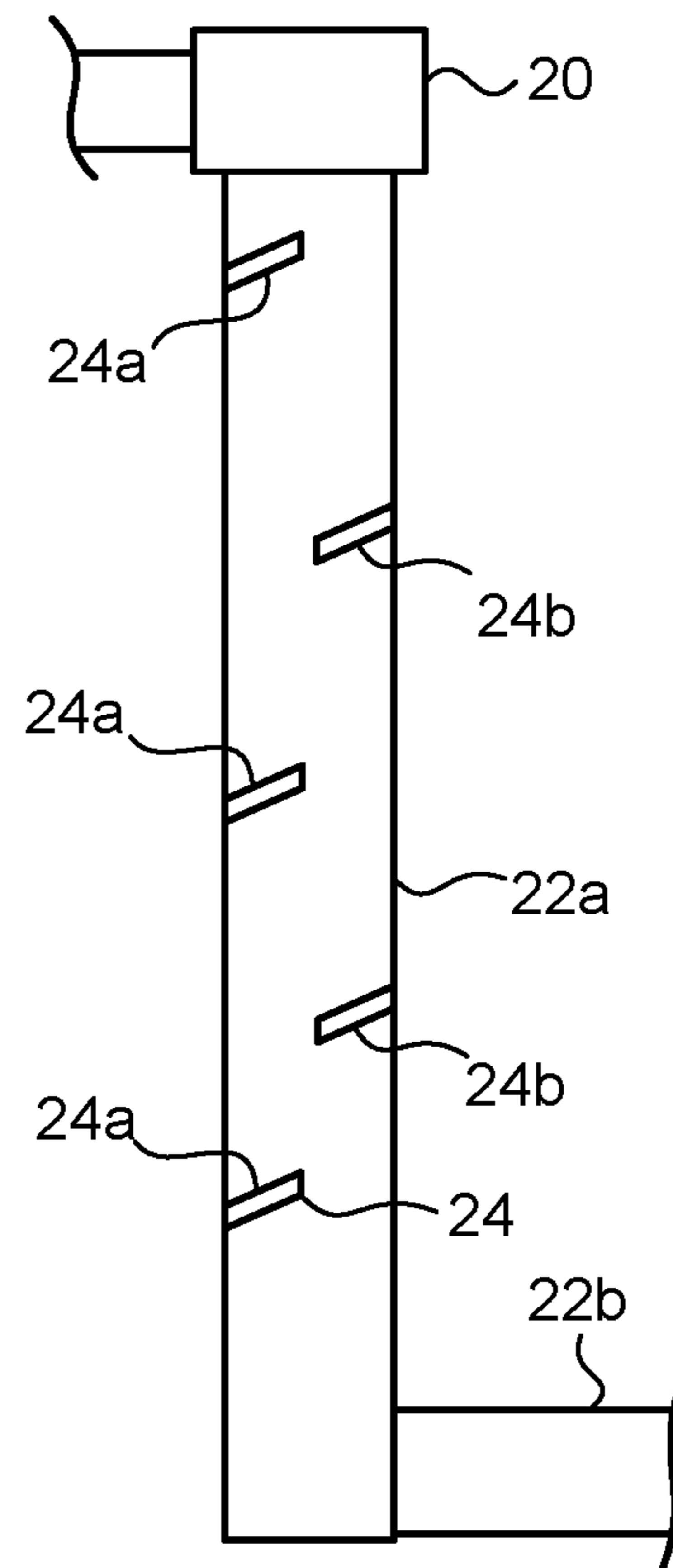


FIG. 4

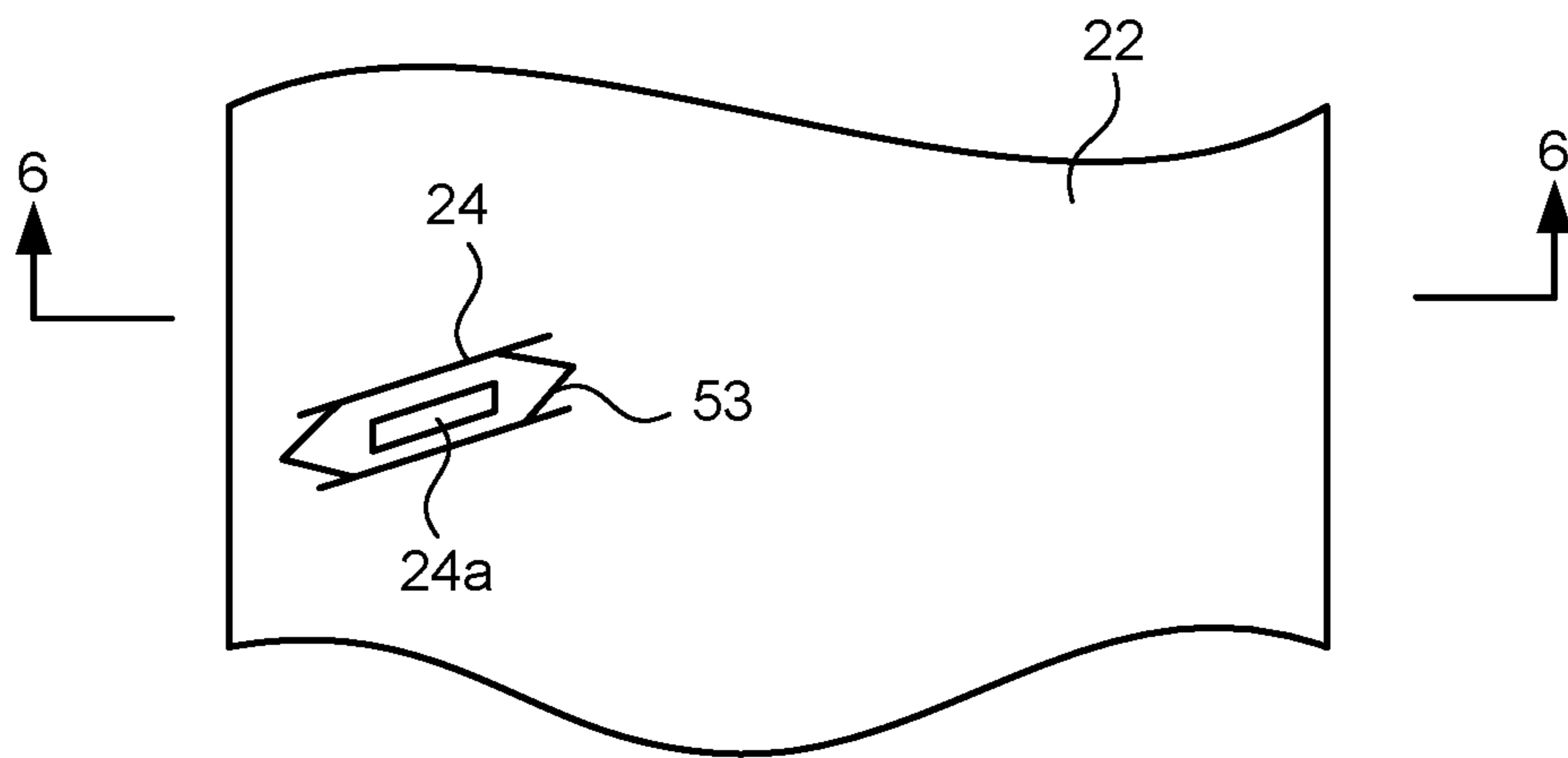


FIG. 5

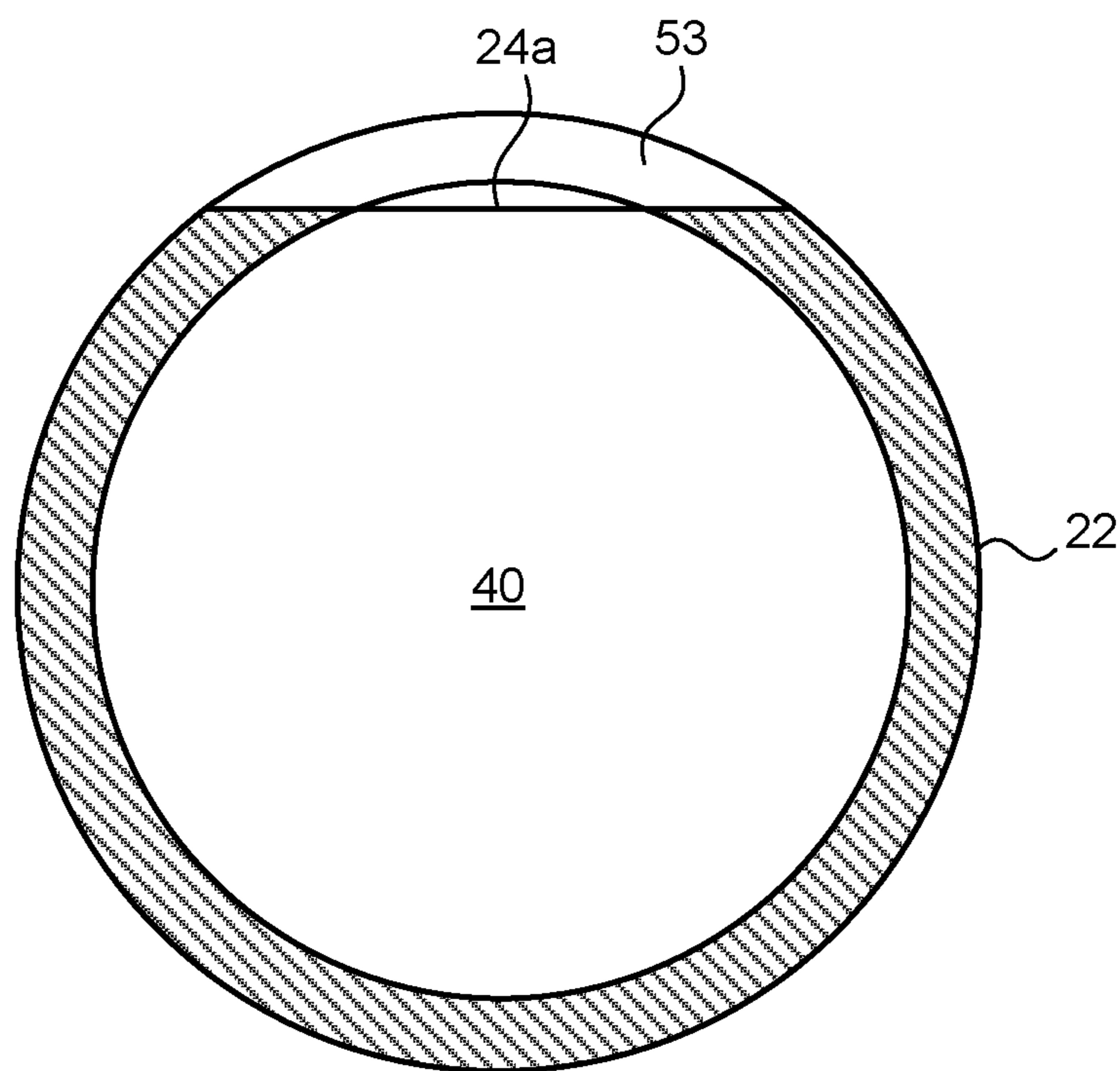


FIG. 6

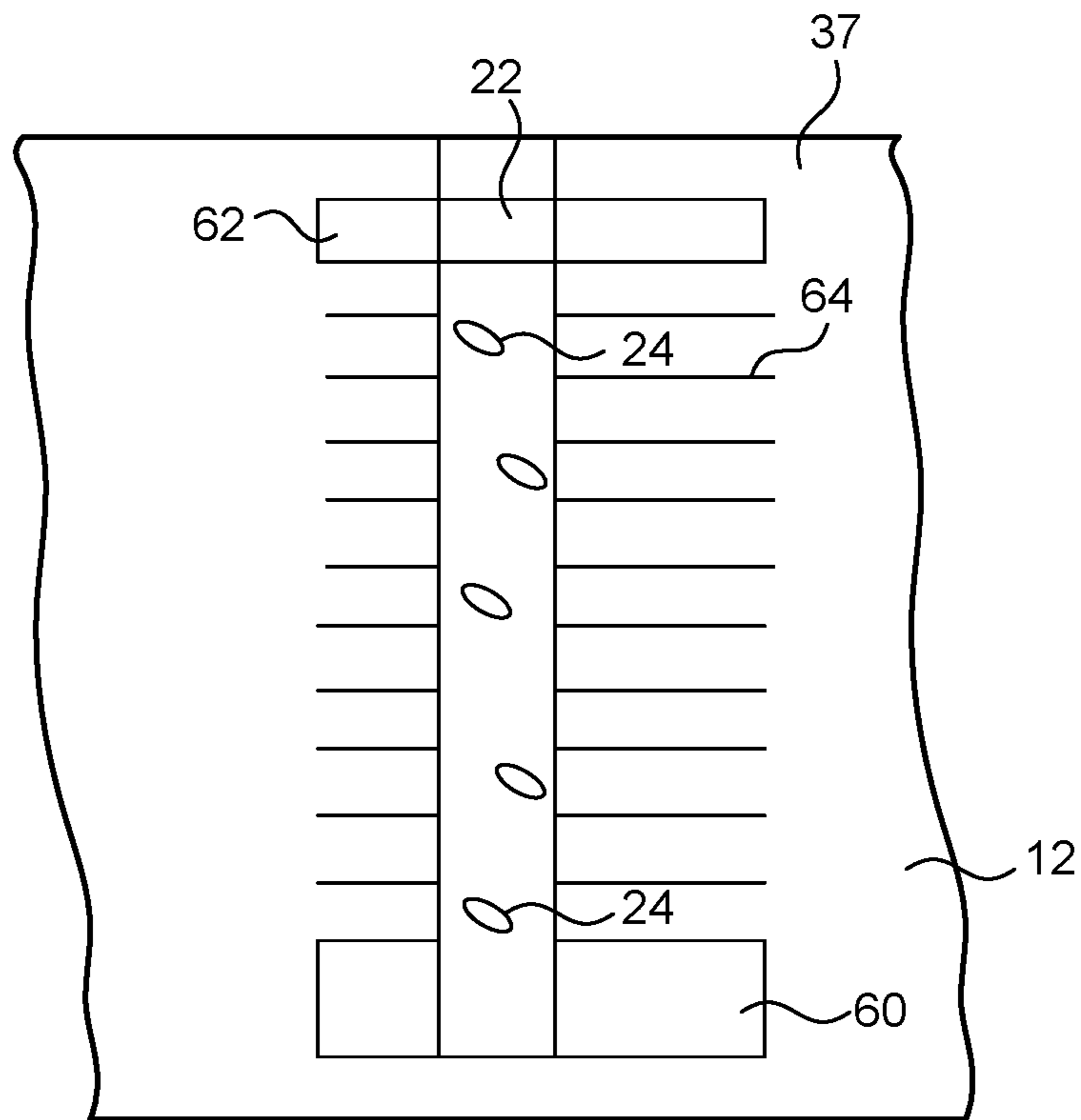


FIG. 7

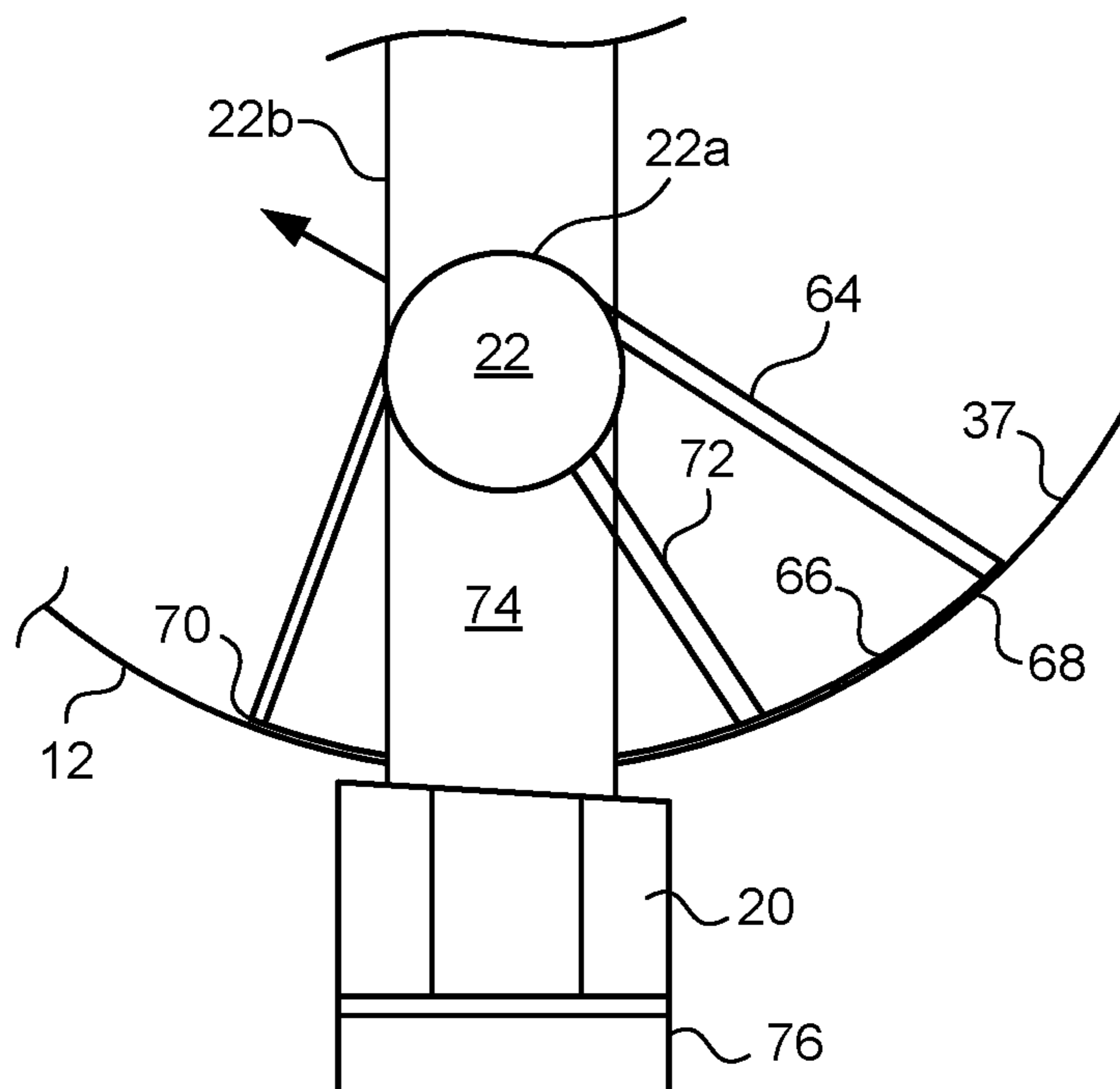


FIG. 8

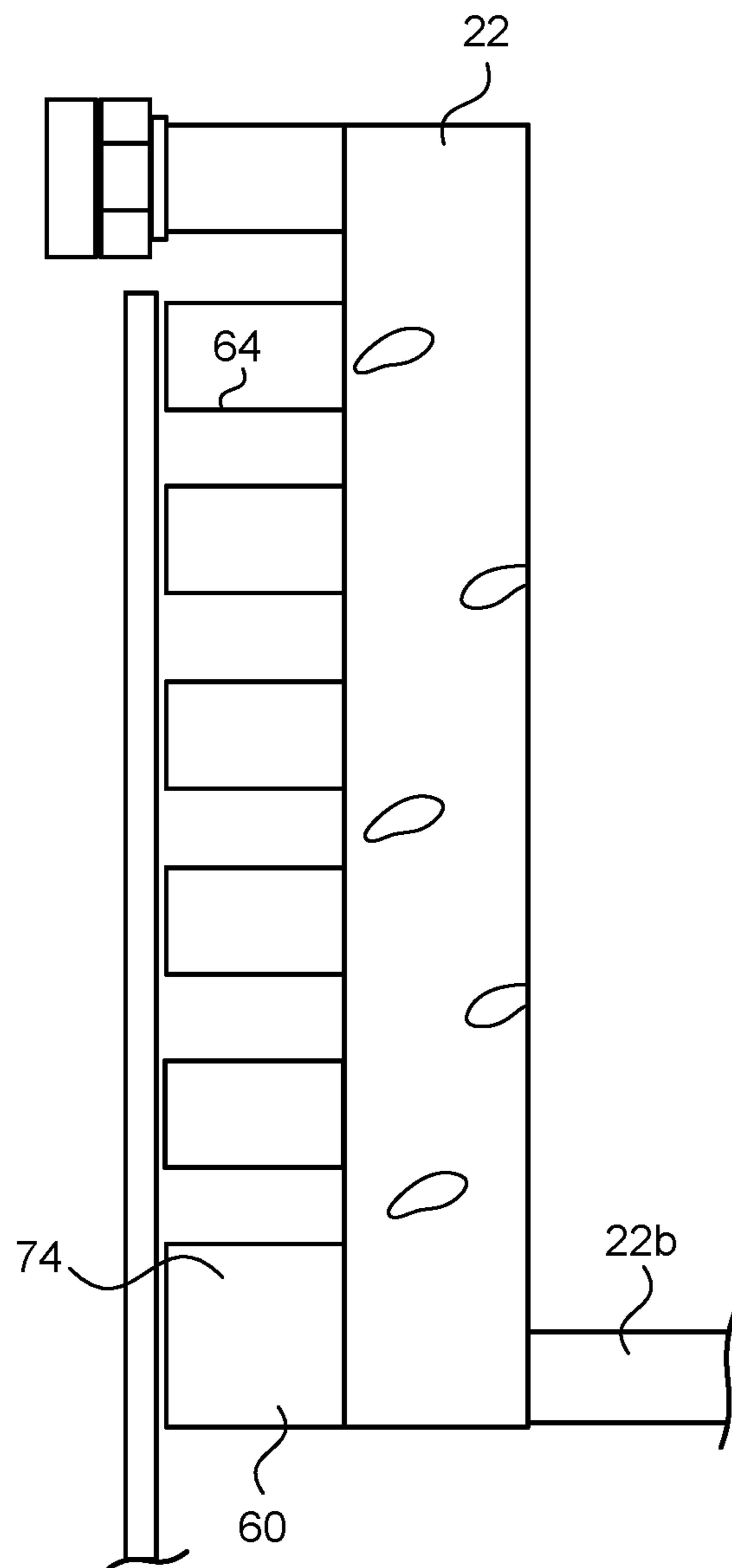


FIG. 9

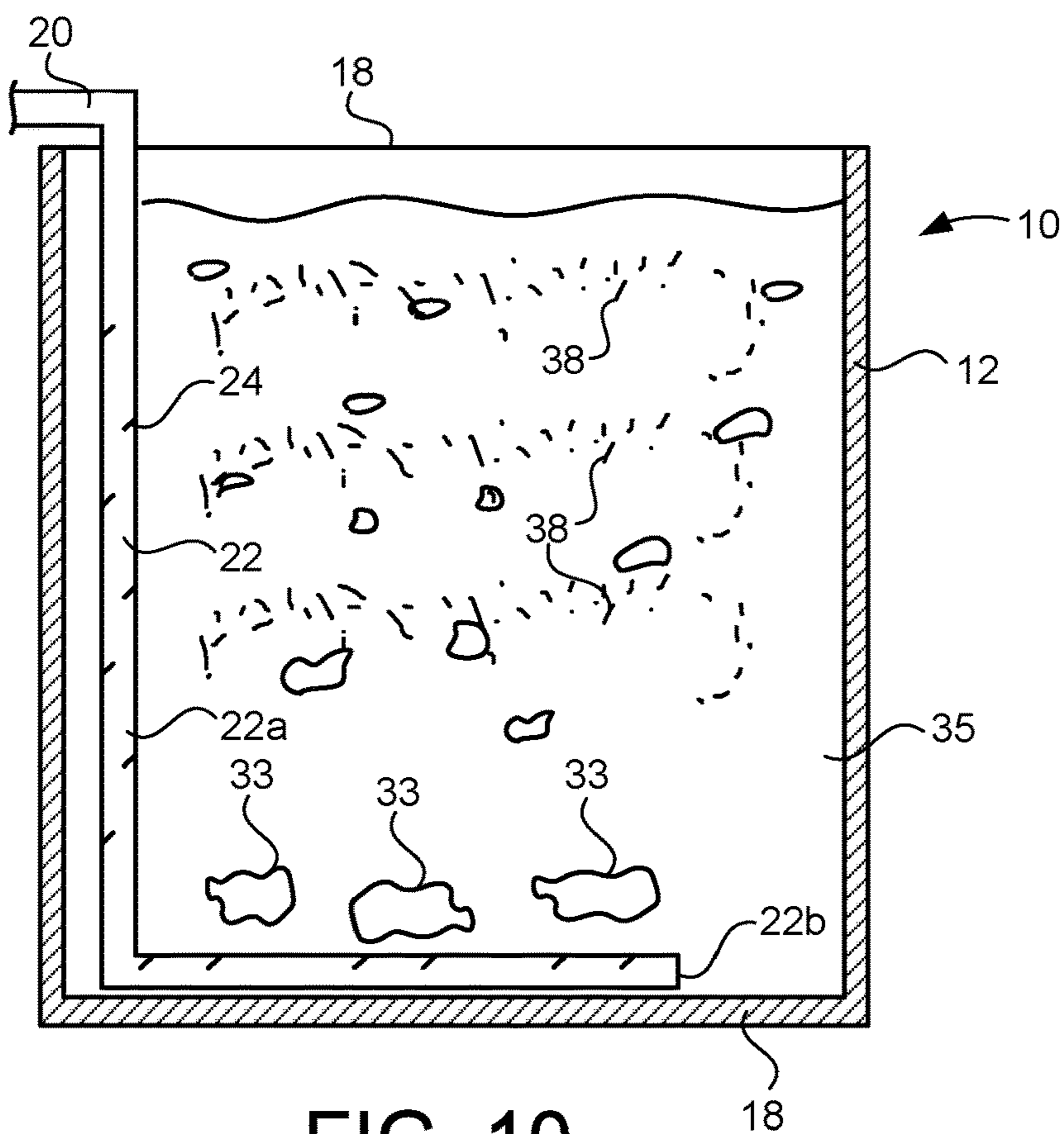


FIG. 10

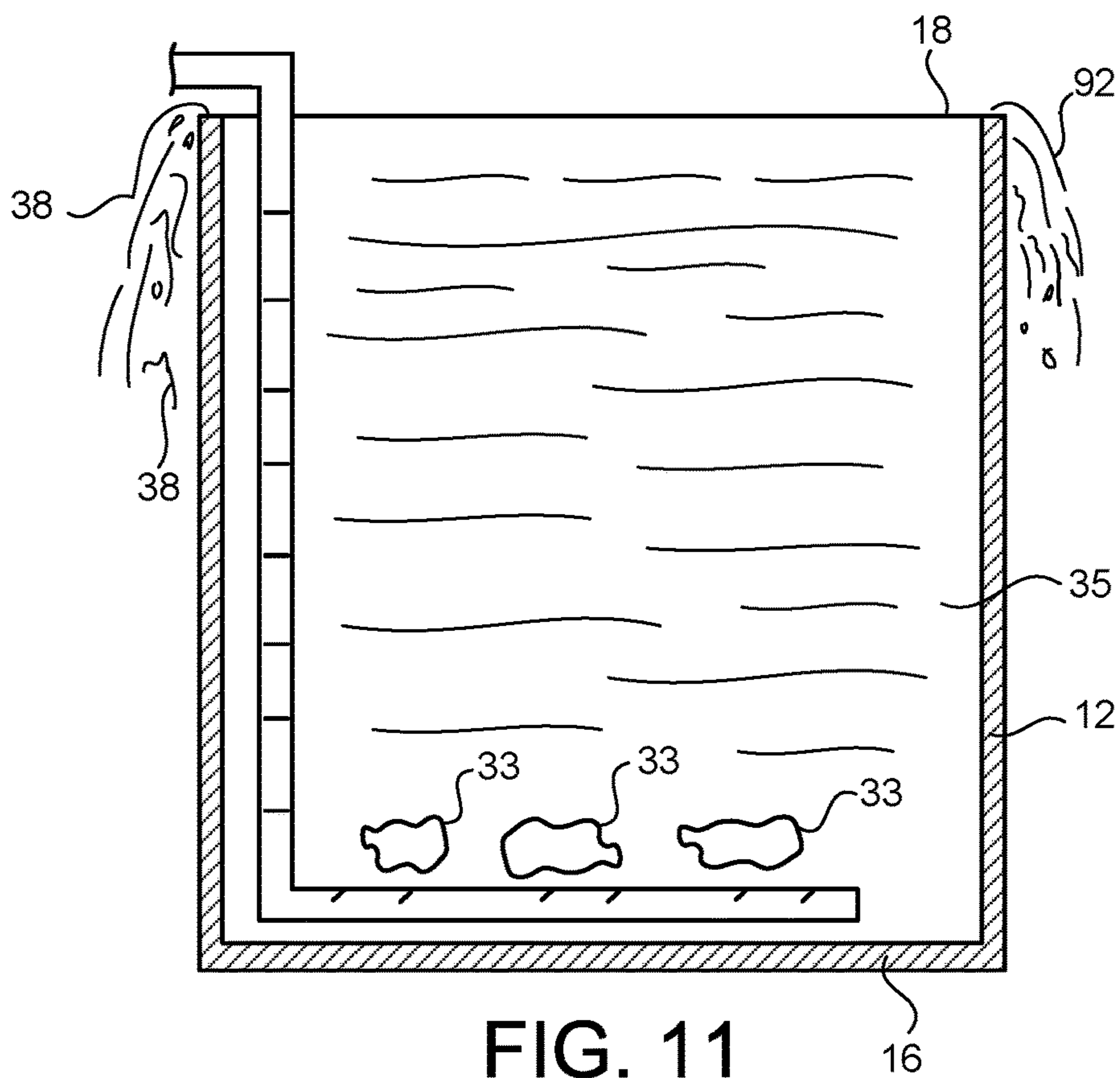


FIG. 11

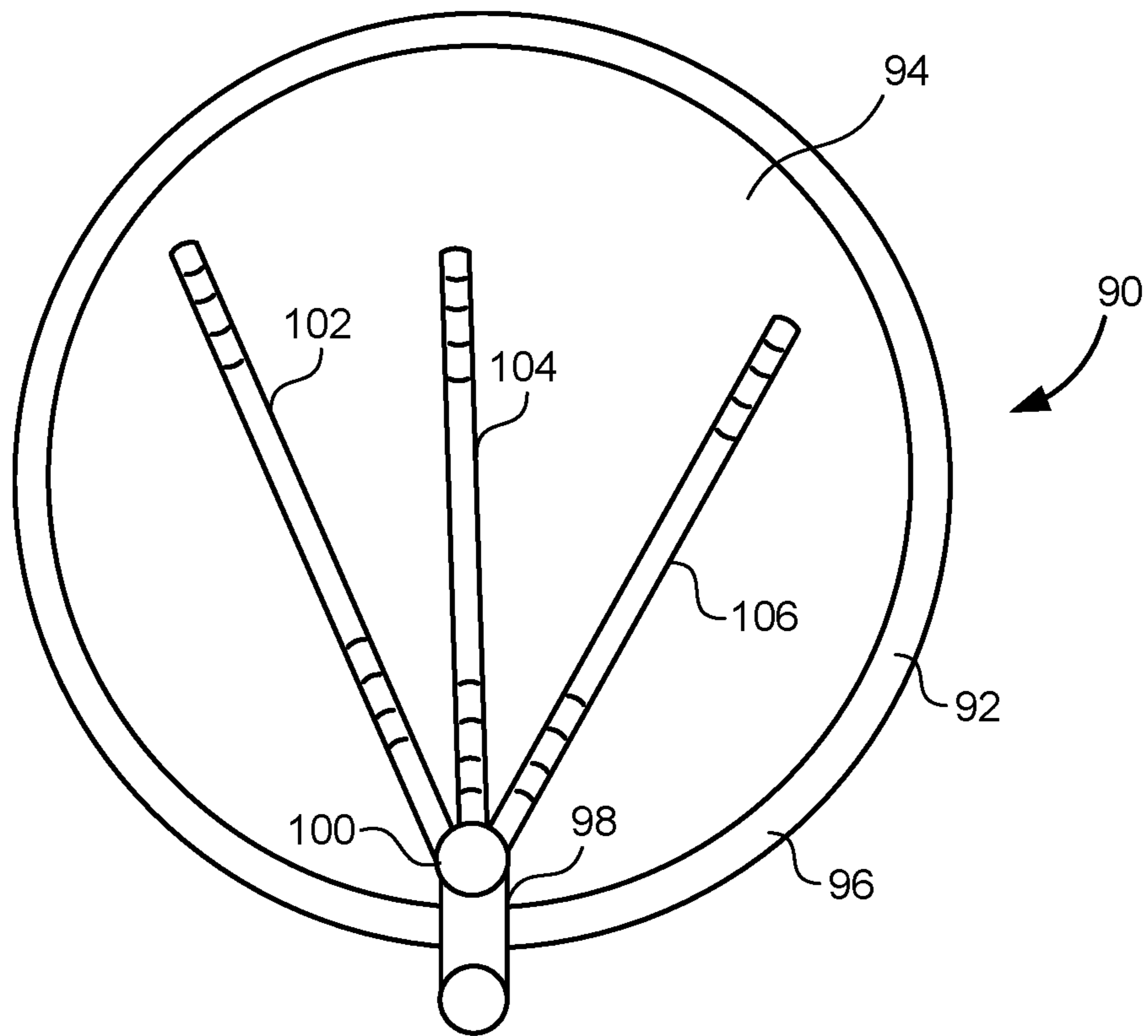


FIG. 12

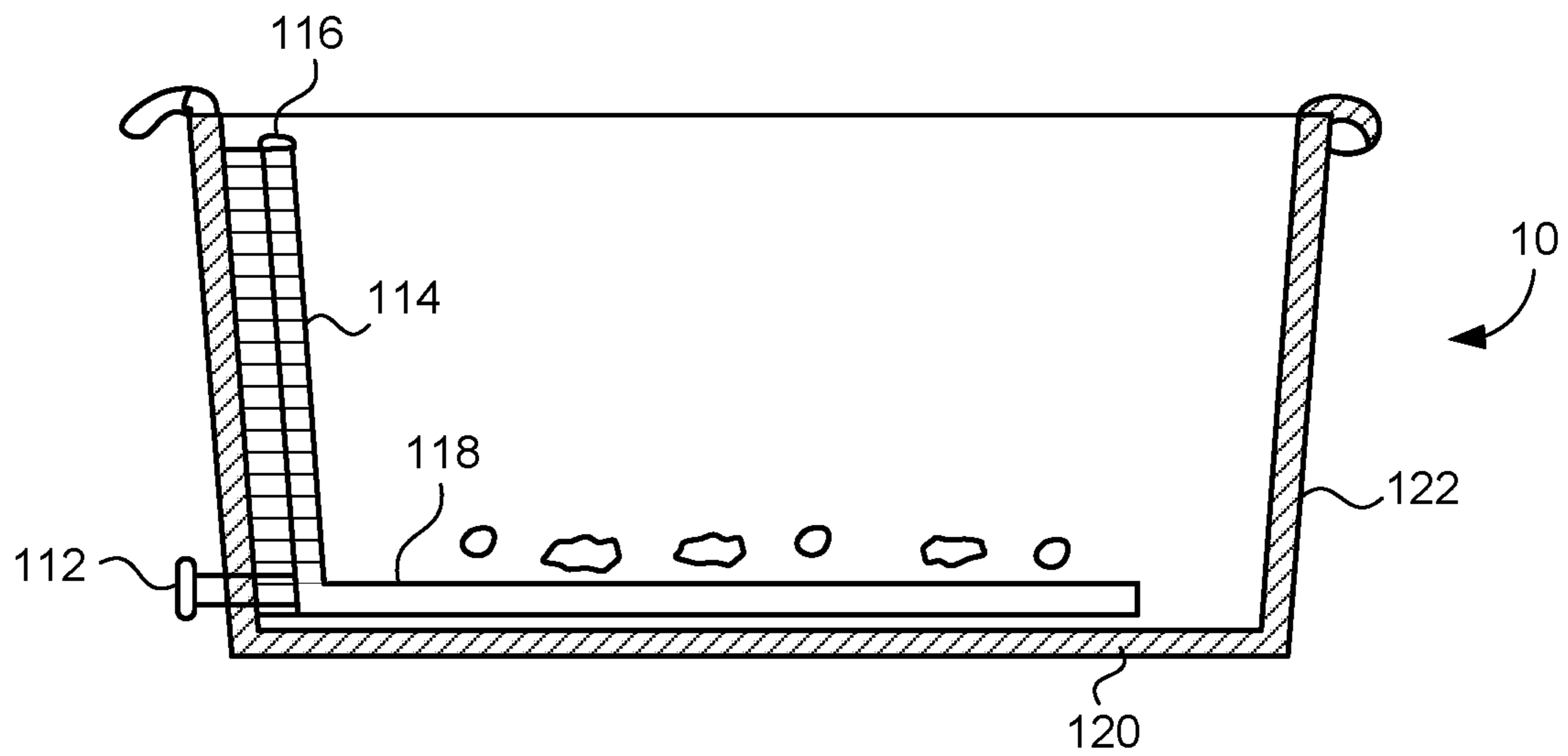


FIG. 13

**WASHING APPARATUS FOR CLEANING
GAME, FRUIT, VEGETABLES, FISH OR
CRUSTACEA IN A CONTAINER**

CROSS-REFERENCE TO RELATED
APPLICATIONS

The present application is a continuation-in-part of U.S. patent application Ser. No. 15/951,667, filed on Apr. 12, 2018, and entitled "Washing Apparatus for Cleaning Game, Fruit, Vegetables, Fish or Crustacea in a Container", presently pending. U.S. patent application Ser. No. 15/951,667 is a continuation-in-part of U.S. patent application Ser. No. 15/409,058, filed on Jan. 18, 2017, and entitled "Apparatus for Cleaning Crustacea or Game", presently pending. U.S. patent Ser. No. 15/409,058 is a continuation-in-part of U.S. patent application Ser. No. 14/877,519, which was filed on Oct. 7, 2015. Application Ser. No. 14/877,519 issued as U.S. Pat. No. 10,456,812 on Oct. 29, 2019. U.S. application Ser. No. 14/877,519 is a continuation-in-part of U.S. patent application Ser. No. 14/812,545, filed on Jul. 29, 2015, and entitled "Apparatus and Method for Cleaning Produce". U.S. patent application Ser. No. 14/812,545 issued as U.S. Pat. No. 9,408,412 on Aug. 9, 2016. U.S. application Ser. No. 14/812,545 is a continuation-in-part of U.S. application Ser. No. 14/550,195, filed on Nov. 21, 2014. U.S. patent application Ser. No. 14/550,195 issued as U.S. Pat. No. 9,320,286 on Apr. 26, 2016 and was entitled "Apparatus and Method for Cleaning Game".

STATEMENT REGARDING FEDERALLY
SPONSORED RESEARCH OR DEVELOPMENT

Not applicable.

NAMES OF THE PARTIES TO A JOINT
RESEARCH AGREEMENT

Not applicable.

INCORPORATION-BY-REFERENCE OF
MATERIALS SUBMITTED ON A COMPACT
DISC

Not applicable.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to the cleaning or washing of game, fruit, vegetables, fish, or crustacea in a container. More particularly, the present invention relates to a spraying article as used for directing a flow of water in cyclonic path in the container so as to remove debris from the surface of the food items contained in the container.

2. Description of Related Art Including Information
Disclosed Under 37 CFR 1.97 and 37 CFR 1.98

During the course of hunting, it becomes necessary to harvest the meat from the killed game. The game can be in the nature of birds, fish, deer, boars, and other commonly-hunted game. When the meat is harvested, the harvested meat is often tossed into a container, along with the associated debris, such as feathers, hair, blood, scales, and related debris. After the meat is collected in the container,

the meat must be meticulously cleaned in order to separate the debris from the meat. This is a very time-consuming and difficult operation. As such, a need has developed so as to provide an apparatus and method so as conveniently and efficiently separate the debris from the meat.

In particular, in the hunting of fowl, the bird is de-breasted so that the breast meat can be tossed into the container. The person harvesting the meat will often have feathers and blood on his or her hands. Whenever the harvested breast is tossed into the container, the feathers and blood will also be passed into the container. After all of the breasts, blood and feathers have been accumulated in the container, another operation is required to take each of the breasts from the container and meticulously clean the breast of blood and feathers. As a result, a clean bird breast is obtained.

In the case in which fish are the game that is being caught, the fillets of the fish are separated from the body of the fish and also tossed into the container. During the process of descaling the fish, residual scales and blood will reside on the hands of the person cleaning the fish. The scales and blood will be delivered, along with the harvested meat, into the container. Once again, a need has developed so as to be able to properly separate the meat of the fish from the scales and the blood.

In the past, various patents have issued relating to devices for cleaning game. For example, U.S. Pat. No. 2,860,371, issued on Nov. 18, 1958 to R. M. Krull, describes a fish cleaning device. This fish cleaning device includes a generally cylindrical housing. The housing has a plurality of longitudinal corrugations therein spaced around an upper compartment. An electric motor is mounted in the lower compartment and has a vertical shaft extending through the wall into the upper compartment. A scaling plate is mounted on the shaft in rotatable relationship therewith adjacent the wall in the upper compartment. The plate has a plurality of angularly spaced upwardly projecting generally radial ridges thereon so as to cause tumbling action in fish contained in the upper compartment.

U.S. Pat. No. 2,966,159, issued on Dec. 27, 1960 to R. C. Ruegnitz, describes an egg washing apparatus. This egg washing apparatus includes a container having an imperforate detachable cover and includes a chamber adapted to receive a liquid. A perforate basket supports eggs within the container and has a sleeve extending centrally therein above a horizontal plane defined by the upper rim of the basket. The basket is removably suspended within the chamber. An agitator is provided that includes a vertical shaft equipped with a plurality of elongated vertical blades. A motor is arranged with the agitator for rotating the agitator.

U.S. Pat. No. 4,173,051, issued on Nov. 6, 1979 to J. P. Reid, describes a vegetable washer for washing food articles. The washing apparatus includes a container for housing the food articles, an agitation system and washing system for removing undesired foreign materials from the surface of the food articles, and a discharge system.

U.S. Pat. No. 4,726,095, issued on Feb. 23, 1988 to Bissell Jr. et al., discloses a fish scaler device. The device includes a water bucket, an abrasive continuous surface within the bucket, and an agitator for water within the bucket. As the water is agitated, fish suspended within the bucket gently tumble against the abrasive surface and are thereby scaled. The abrasive surface is an inwardly dimpled bucket liner. The agitator is a rotatable impeller.

U.S. Pat. No. 4,763,386, issued on Aug. 16, 1988 the H. A. Wissbroecker, teaches a fish scaling apparatus that includes a container and a cylindrical insert including a plurality of inwardly-extending projections. The projections

are provided with a rough or sharp edge. A paddle member is disposed within the interior of the cylindrical insert and is connected to a shaft extending exterior of the container. The shaft is adapted for connection to the chuck of a portable drill. When the drill is operated, the rotation of the paddle member occurs within the interior of the cylindrical insert. The rotation causes fish disposed within the interior of the cylindrical insert to come into contact with the inwardly-extending projections so as to remove the scales from the fish.

U.S. Pat. No. 4,876,768, issued on Oct. 31, 1989 to C. K. Bright, shows a fish scaler that includes a bucket. A perpendicularly extending rod is rotatably connected to the lid of the bucket. A scaling element is attached to the rod. A plurality of scaling protrusions are attached to the exterior of the scaling element. The rotation of the scaling element causes relative movement between the scaling protrusions and the suspended fish so as to remove the scales from the suspended fish.

U.S. Pat. No. 5,129,855, issued on Jul. 14, 1992 to Bruckert et al., describes a fish scaler apparatus that includes an exterior cylindrical container with an interior cylindrical insert. A central axle is directed through a lid of the container so as to accommodate a drill so as to permit the rotation of the axle. The axle includes a central conduit with exterior ports to effect the washing of the fish within the container. The ports are in fluid communication with a fluid source, such as a garden hose.

U.S. Patent Application Publication No. 2013/0093107, published on Apr. 18, 2013 to R. Funderburg, discloses a fish and game washer that is designed to wash and clean meat. The meat is put into a bucket and a water source is connected thereto. Air is sucked in to mix with water. This causes the meat float up from the bottom and begin to toss and tumble. This takes the loose scales, feathers, blood and debris over the top of the bucket.

U.S. Patent Application Publication No. 2014/0127986, published on May 8, 2014 to W. Cady, describes a cleaning device that uses water pressure to prepare fish and wild game for consumption. A bucket is described having a conduit affixed to a wall thereof. The conduit can be connected to a source of water pressure such that water pressure is directed into the interior of the bucket so as to interact with the game within the interior of the bucket.

U.S. Pat. No. 9,320,286, issued on Apr. 26, 2016 to the present inventor, shows an apparatus and method for cleaning game. This apparatus has a container with an interior volume defined by a wall and a pipe positioned in the container adjacent to the wall. The pipe has at least one aperture suitable for directing a flow of water toward a portion of the wall spaced from the pipe such that the flow of water creates a cyclonic path in the container. The pipe extends generally vertically along the wall of the container. The pipe includes a plurality of apertures formed in spaced relation to each other along the length of the pipe.

U.S. Pat. No. 9,408,412, issued on Aug. 9, 2016 to the present inventor, describes an apparatus and method for cleaning produce. This apparatus has a container with an interior volume defined by a wall in a pipe positioned in the container adjacent the wall. The pipe has at least one aperture suitable for directing a flow of water toward a portion of the wall spaced from the pipe such that the flow of water creates a cyclonic path in the container. The pipe extends generally vertically along the wall of the container. The pipe includes a plurality of apertures formed in spaced relation to each other along the length of the pipe.

The method includes overflowing the container such that the debris on the produce is removed from the produce.

Seafood boils refer to various types of social events in which shellfish or crustacea are the central elements. Regional variations dictate the kinds of seafoods, the accompaniments and side dishes, and in the preparation techniques (e.g. boiling, steaming, baking, or raw). In some cases, a boil may be sponsored by a community organization as a fundraiser or a mixture. Boils are also held by individuals for their friends and family for weekend get-togethers and summer holidays. There are also companies that can cater a boil for large and small events.

Shrimp, crab and crawfish boils are a Louisiana tradition and can be found across Louisiana and along the Gulf Coast. These shrimp, crab and crawfish boils are becoming more popular in various other areas around the United States and foreign countries. One reason for the popularity of crawfish is the price. Shrimp and crab or higher valued crustacea and may be a less affordable option for larger groups. A boil is usually carried out in a large pot (60 to 80 quarts) fitted with a strainer and heated by propane. Seasonings include crawfish boil packets, cayenne pepper, hot sauce, salt, lemons and bay leaves. Ears of corn, new potatoes, onions, and heads of garlic are usually added in shrimp and crawfish boils. Some people add smoked sausage links or mushrooms. When cooking crawfish, there is a debate over whether or not the crawfish must first be purged by covering them with clear water and a generous amount of salt for a few minutes. Advocates argue that this forces the crawfish to rid their bodies of impurities.

Prior to boiling the crustacea, it is important to clean the crustacea. Typically, the crawfish and shrimp can have debris and impurities on the outer surface thereof. If the crustacea are not cleaned, then this can present a gritty or unpleasant taste following the boil. Typical cleaning preparations, in the past, have been to place a large amount of crawfish into a bucket and then using a hose to spray water over the crawfish in the bucket. After the bucket is filled with water, the bucket is tipped over by hand manipulation so as to remove the debris-containing water. This requires a great deal of manual effort. Additionally, so as to assure that the crawfish and/or shrimp are very clean, this cleaning step must be carried out multiple times. Ultimately, after a suitable amount of cleaning, the crawfish or shrimp will be ready for the boil. During the steps of cleaning, it is quite common for some of the crawfish to escape the cleaning bucket. These crawfish must be manually retrieved and returned for further processing. Many people find that the process of cleaning the crawfish or shrimp is time-consuming and unpleasant. As such, a need has developed so as to be able to efficiently clean the crustacea prior to the step of boiling.

In the past, various patents have issued relating to processes for cleaning crustacea, such as crawfish. In particular, U.S. Pat. No. 2,660,754, issued on Dec. 1, 1953 to F. O. Roshko, shows a crawfish picking machine for separating meat from the hulls of crawfish. The picking machine includes a frame having an upper and a lower roller mounting member, upper and lower parallel horizontally disposed rollers mounted one substantially vertically above the other on these members, adjustable tensioning means between the mounting members that yieldably urge the members and the associated rollers together to form a crotch between the rollers, and a drive means operatively connected with the rollers for positively rotating the rollers in opposite directions at a uniform rate. A water jet sprays in front of the crotch substantially parallel with the lower forward periph-

eral portion of the upper roller and has jet openings directed toward the peripheral portion of the upper roller between the spray and the crotch.

U.S. Pat. No. 2,781,544, issued on Feb. 19, 1957 to T. C. Skarmetta, shows a seafood cleaning machine. This shrimp cleaning machine includes a longitudinally extending generally flat shrimp-receiving platform having flexible, transversely downwardly curved side edges, a support means of which the flexible side edges are entrained, a means operatively connected to the platform for transversely reciprocating the platform, longitudinally extending rollers engaging a top surface of the platform adjacent the side edges to form crotches with the platform. The rollers are oscillatably driven by their contact with the top surface of the platform. The surfaces of the rollers and the platform have different coefficients of friction whereby a shrimp received in a crotch will cling to one surface and slip on the other surface to thereby rotate the shrimp until a loose end of the shell is caught between the roller and the platform and the shell is unwound from the shrimp and drawn through the crotch and from the platform.

U.S. Pat. No. 3,958,022, issued on May 18, 1976 to A. Danesh, describes a process for treating seafood. This treatment of seafood allows toxic heavy metal ions to be removed from the seafood so as to make the seafood safe for consumption. The method includes washing the seafood with an organic sulfur complexing agent for heavy metal ions and heating the seafood at a temperature and for a time sufficient to volatilize the heavy metal ions therefrom.

U.S. Pat. No. 7,087,257, issued on Aug. 8, 2006 to Prestenbach, teaches a crustacea and seafood process for preparing fresh uncooked crustaceans, such as crawfish, lobster, crab and shrimp for shipment to consumers in a frozen state. The process includes a washing process. This washing process submerges the crustaceans in a few inches of clean running water. The crustaceans are treated with ozone introduction of a preservative and a bactericide while under a vacuum. The crustaceans are spray coated with a seasoning and then quick frozen. They are then packaged in bulk for individualized cook-and-serve containers.

In experiments associated with the development of the subject matter of U.S. application Ser. No. 15/951,667, it was found that, under certain circumstances, it would be desirable to provide a lift to the food in the container. Under certain circumstances, heavy materials could settle to the bottom of the container and would not experience the cleaning effect associated with the cyclonic flow of water. It would be desirable to have a force from the bottom of the container could provide the necessary lift to the food within the container so as to further agitate the food in a turbulent manner within the container. It was important to be able to do this without interfering with the cyclonic flow path created within the container.

It is an object of the present invention to provide a washing apparatus for cleaning game, fruit, vegetables, fish or crustacea that effectively separates debris from the food items.

It is another object of the present invention to provide a washing apparatus for cleaning game, fruit, vegetables, fish or crustacea which serves to pressure wash the food items.

It is another object of the present invention to provide an apparatus for cleaning game, fruit, vegetables, fish, or crustacea that avoids the need to hand wash the food.

It is another object of the present invention to provide a washing apparatus for cleaning game, fruit, vegetables, fish, or crustacea that greatly facilitates the ability to clean the container after the washing process.

It is still another object of the present invention to provide an apparatus for the cleaning of game, fruit, vegetables, fish or crustacea which is adaptable to a variety of sizes and shapes of containers.

It is still another object of the present invention to provide an apparatus for cleaning game, fruit, vegetables, fish or crustacea which enhances the transportability of the apparatus.

It is another object of the present invention to provide an apparatus for cleaning game, fruit, vegetables, fish or crustacea which can be easily assembled.

It is still further object of the present invention to provide an apparatus for cleaning game, fruit, vegetables, fish or crustacea which has a minimal footprint in a commercial environment.

It is still a further object of the present invention to provide an apparatus for cleaning game, fruit, vegetables, fish or crustacea which can be easily stored, transported or displayed.

It is still a further object of the present invention to provide an apparatus for cleaning game, fruit, vegetables, fish, or crustacea which is relatively inexpensive.

It is still another object of the present invention to provide an apparatus for cleaning game, fruit, vegetables, fish or crustacea which creates a lifting force upwardly from the bottom of the container.

These and other objects and advantages of the present invention will become apparent from a reading of the attached specification and appended claims.

BRIEF SUMMARY OF THE INVENTION

The present invention is a washing apparatus for various food items. As used herein, the term "crustacea" can refer to crawfish, shrimp, crab and lobster. The term "game" can refer to fish, birds, deer, boar, and similar wildlife. The terms "fruit" and "vegetables" can refer to various fruits and vegetables that have exterior surfaces that require cleaning, such as, for example, apples, oranges, potatoes, lettuce and tubers.

The apparatus of the present invention comprises a pipe having a first portion and a second portion. The second portion extends generally transverse to the first portion. At least one of the first and second portions have a plurality of apertures formed through a wall thereof. The plurality of apertures are adapted to direct flow of water in a cyclonic path in the container. A connector is connected to the pipe. The connector is adapted to be connected to a water hose or water conduit so as to allow water to be introduced into and through the pipe.

The first portion of the pipe extends generally vertically. The second portion of the pipe extends generally horizontally. The plurality of apertures comprise a first set of apertures and a second set of apertures. The first set of apertures direct the flow of water in a direction different than the direction of the flow of water from the second set of apertures.

In the present invention, the second portion of the pipe can comprise a plurality of conduits radiating outwardly from a lower end of the first portion. Each of the plurality of conduits has the plurality of apertures formed through a wall thereof. In an embodiment of the present invention, each are each of the first and second portions of the pipe have a plurality of apertures. The plurality of apertures are adapted to direct the flow of water upwardly from the second portion of the pipe.

A fastener is affixed to the pipe or to the connector. The fastener is adapted to removably affix the pipe to a container. In an embodiment of the present invention, the fastener can be a clamp.

The pipe has a plurality of spacers extending transverse to a longitudinal axis of the first portion of the pipe. The plurality of spacers are adapted to generally abut a wall of the container. In one embodiment, the connector is affixed to an upper end of the first portion of the pipe. In another embodiment, the connector is affixed to a lower end of the first portion of the pipe.

The present invention is also an apparatus for cleaning game, vegetables, fruit, fish or crustacea in a container and comprises a container having an interior volume, a pipe having a first portion and a second portion, and a connector connected to the pipe. The second portion of the pipe extends generally transverse to the first portion. The second portion of the pipe is located at an end of the first portion and extends across at least a portion of the bottom of the container. The second portion of pipe has a plurality of apertures formed through a wall thereof. The plurality of apertures are adapted direct the flow of water in a cyclonic path in the container. The connector is adapted to be connected to a water hose or water conduit so as to introduce water into and through the pipe.

The pipe is clamped to the container at or adjacent to the upper edge. A fastener is affixed to the pipe or to the connector so as to affix the pipe to the container. The apparatus can further comprise a water hose affixed to the connector. The water hose extends outwardly exterior of the container.

The first portion of the pipe extends generally vertically. The second portion of the pipe extends generally horizontally. The plurality of apertures include a first set of apertures and a second set of apertures. The first set of apertures direct the flow of water in a direction different than the direction of the flow of water from the second set of apertures. In an embodiment of the present invention, the second portion of the pipe comprises a plurality of conduits radiating outwardly from a lower end of the first portion. The connector can be either affixed to an upper end of the first portion of the pipe or affixed to a lower end of the first portion of the pipe.

This foregoing Section is intended to describe, with particularity, the preferred embodiments of the present invention. It is understood that modifications to these preferred embodiments can be made within the scope of the present claims. As such, this Section should not be construed, in any way, as limiting of the broad scope of the present invention. The present invention should only be limited by the following claims and their legal equivalents.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

FIG. 1 is a side elevational view of the washing apparatus in accordance with the preferred embodiment the present invention.

FIG. 2 is a cross-sectional view showing the washing apparatus of the present invention.

FIG. 3 is a plan view showing the cyclonic flow path of water in the container of the washing apparatus of the present invention.

FIG. 4 is a diagrammatic illustration of the apertures that are formed on the pipe of the apparatus of the present invention.

FIG. 5 is a detailed view showing the construction of the aperture on the pipe of the apparatus of the present invention.

FIG. 6 is a cross-sectional view of the pipe as taken across lines 6-6 of FIG. 5.

FIG. 7 is a frontal view of the pipe within the container of the apparatus of the present invention.

FIG. 8 is a bottom view of the pipe as positioned against the wall of the container of the apparatus of the present invention.

FIG. 9 is a side elevational view showing the placement of the pipe of the present invention against the wall of the container of the apparatus of the present invention.

FIG. 10 is an illustration of the method of the present invention is used for the cleaning or washing of food articles.

FIG. 11 is a illustration of a further step of the present invention as used in the cleaning of food articles.

FIG. 12 is a plan view showing an alternative embodiment of the present invention with a plurality of conduits radiating outwardly of the first portion of the pipe.

FIG. 13 is an alternative embodiment of the washing apparatus the present invention showing, in particular, the connector located at the bottom of the first portion of the pipe.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. 1, there is shown the apparatus 10 used for the cleaning of game, fruit, vegetables, fish, or crustacea in accordance with the present invention. The apparatus 10 includes a container 12 having an interior volume defined by a wall 14. The container 12 has a bottom 16 and an upper edge 18. A pipe 22 (shown in broken lines) is positioned adjacent to the wall 14. The pipe will have a plurality of apertures adapted to direct a flow of water toward a portion of the wall spaced from the pipe such that the flow of water creates a cyclonic path in the container. The pipe 22 has a first portion 22a and a second portion 22b. The second portion 22b extends generally transverse to a longitudinal axis of the first portion 22a. The second portion 22b will be located generally adjacent to the bottom 16 of the container 12 will extend across at least a portion of the bottom 16. The pipe 22 will extend generally vertically adjacent to the wall 14 of the container. A connector 20 is fluidically connected to the pipe adjacent an upper end of the pipe. The connector 20 will extend outwardly of the upper edge 18 of the container 12. A hose 23 is affixed to the connector 20 so as to deliver water to the connector 20 and into and through the pipe 22.

In FIG. 1, it can be seen that the pipe 22 is draped over the upper edge 18 of the container 12. In another embodiment (such as shown in FIG. 2), the pipe 22 are the connector 20 can be fastened to the upper edge 18 of the container 12. In any event, the pipe 22 can be removably affixed to the container 12. As such, when it is desired to clean food articles, the pipe 22 can be draped over the upper edge 18 of the container 12 so as to create the cyclonic flow path of water within the interior of the container 12. After the food has been cleaned, the pipe 22 can be lifted from the interior of the container over the upper edge 18 and then stored for later use.

FIG. 2 is a cross-sectional view of the apparatus 10 of the present invention. In FIG. 2, it can be seen that the pipe 22 has its first portion 22a positioned adjacent to the wall 14 of the container. The second portion 22b is positioned across a

portion of the bottom 16 of the container 12. The first portion 22a has a plurality of apertures adapted to direct the flow of water toward a portion of the wall spaced from the pipe 22 such that the flow of water creates a cyclonic path in the container 22. The first portion 22a of the pipe 22 extends generally vertically adjacent to the wall 14 of the container 12. The second portion 22b has a plurality of apertures 22c formed therein. The plurality of apertures 22c are adapted to provide a bubbling or lifting force to the food items 33 that are adjacent to the bottom 16 of container 12. Additionally, as can be seen in FIG. 2, the plurality of apertures 22c include a first set of apertures adjacent to the first portion 22a of the pipe 22 that open in a direction different than another set of apertures located at the distal end of the second portion 22b away from the first portion 22a. Water flowing through these apertures not only creates an upward bubbling or lifting force, but also conforms to the cyclonic flow path of the water as resulting from the delivery of water from the first portion 22a of the pipe 22.

The connector 20 is illustrated as extending over the outer lip 27 of the upper edge 18 of the container 12. The connector 20 is in fluid-tight relationship with the pipe 22. As such, when water is introduced through the connector 20 by the use of the water hose 23, water will flow downwardly through the pipe 22 and will be emitted through the various apertures of the pipe 22. The pipe 22 is illustrated in greater detail in FIGS. 7-9 herein.

In FIG. 2, it can be seen that there is a fastener 25 that is secured to the connector 20. Fastener 25 can also be secured to the pipe 22 or separately secured to the pipe 22. In particular, the fastener 25 is a clamp that can engage the lip 27 at the upper edge 18 of the container 12 or engage another surface of the container 12. As such, the fastener 25 will removably position the pipe 22 in its generally vertical orientation within the container 12. This will secure the delivery of water by the water hose 23 into and through the pipe 22. After use, the clamp of the fastener 25 can be loosened so that the pipe 22 can be removed from the container 12.

FIG. 3 illustrates a plan view of the container 12 showing the upper edge 18 of the container 12. The container 12 has an inner wall 37 that defines the interior volume 35 the container 12. In FIG. 3, it can be seen that the pipe 22 is positioned adjacent to the inner wall 37 of the container 12.

In FIG. 3, water is directed from the interior 40 of the pipe 22 outwardly through the apertures. As such, the water will flow outwardly of the pipe 22 in a first direction 44 through a first set of apertures and will be directed in a second direction 46 through from a second set of apertures. The water flow 46 is directed toward a portion of the inner wall 37 of the container 12 in spaced relation to the pipe 22. The water flow 44 is directed from the second set of apertures outwardly of the pipe 22 also toward another portion of the inner wall 37 of the container. In particular, the water flow 46 is directed to the portion of the inner wall 37 of the container 12 generally adjacent to the pipe 22. The water flow 44 is directed toward a portion of the inner wall 37 at a location spaced further from the pipe 22 and spaced from the portion of the wall associated with the water flow 46. The direction 46 is generally a chord of a circumference of the container 12. By flowing the water in the first direction, a cyclonic path of water flow (illustrated by arrows 48) is created in the interior volume 35 of the container 12. The cyclonic path of water flow 48 serves to effectively separate the debris from the food articles. The first set of apertures of the pipe 22 will distribute the jets of water over a substantial portion of the height of the container 12. This has been found

to enhance the strength of the cyclonic flow path and to create an improved washing effect. The water flow from the second set of apertures of the pipe 22 provides a broader flow which serves to agitate the water within the container 12 further and to pressure wash the food items within the container 12. As such, the combined water flows 44 and 46 serve to substantially increase the turbulence within the container for the purpose of separating debris from the food items. The water flow 46 creates the cyclonic flow path while the water flow 44 agitates the water flow and pressure washes the food items simultaneously. These water flows combine to enhance the ability of the present invention to effectively clean the food items and to remove the debris therefrom.

FIG. 3 further shows that the second portion 22b of the pipe 22 extends across a portion of the bottom of the container 12. The second portion 22b has a first set of apertures 43 and a second set of apertures 45. The flow of water from each of the first set of apertures 43 and the second set of apertures 45 will be in different directions. As such, this provides a lifting force to the food items that are contained within the container 12 and also conforms to the cyclonic flow path 48 created by the water flow from the first portion of the pipe 22. Additionally, this upward flow of water from the apertures 43 and 45 can create extra tumbling action for the food items within the container 12. Once again, this further facilitates the washing of the food items.

FIG. 4 illustrates the configuration of the first portion 22a of pipe 22. It can be seen that the apertures 24 are formed through the wall thickness of the first portion 22a of pipe 22. The second portion 22b extends outwardly from the bottom of the first portion 22a. The connector 20 is located at the top of the pipe 22 so as to allow the introduction of water into the interior 40 of the pipe 22. Within the concept of the present invention, the connector 20 can be at any location along the length of the pipe 22.

In FIG. 4, it can be seen that each of the apertures 24 includes a slot. The apertures 24 are positioned in generally spaced parallel relation to each other along the length of the first portion 22a of pipe 22. A first set of apertures 24a will extend in one direction along a portion of the pipe 22 generally adjacent to the wall 16 of the container 12. A second set of apertures 24b are positioned on the pipe 22 away from the first set of apertures 24a. The second set of apertures 24b are directed further away from the wall of the container 12 than the apertures 24a. In the preferred embodiment of the present invention, there are a total of three apertures 24a and two apertures 24b. The apertures 24b are interposed longitudinally between the adjacent pairs of the apertures 24a. As such, this is configured to establish a broad fan-style spray of water flow from the pipe 22. It can be seen that each of the first set of apertures 24a and the second set of apertures 24b are canted at an approximately 30° angle to horizontal. Once again, this angled relationship of each of the apertures 24a and 24b is configured so as to create the optimal cyclonic water flow path and pressure washing. This slotted type of aperture 24, as opposed to holes or other type of openings, is intended to create a fan of water as it is ejected under pressure from each of the apertures 24. However, within the concept of the present invention, the apertures 24 can include holes, openings, and similar techniques for releasing the water under pressure from the pipe 22. Additionally, spray-type fittings could be placed within holes formed in the pipe 22. It is believed that the fan-shape flow of water greatly facilitates the pressure washing of the crustacea or game and enhances the creation of the cyclonic path of water flow. Additionally, such a fan-type spray

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further serves to distribute the pressurized water over a greater area than would be the release of water through the use of a simple circular hole pattern.

FIG. 5 illustrates the construction of a single aperture 24. In particular, aperture 24a is shown as located within a slot 53. The slot 53 has a generally oval configuration with a widened central area and narrowing ends. In experiments with the present invention, it is found that the apertures 24 can be made in a rapid, efficient and effective manner by simply using a saw set to cut the pipe 22. The saw can be set so as to cut the slot 53 to a prescribed depth. Since the pipe 22 has a known wall thickness, the slot 53 is cut through the wall thickness so as to expose the aperture 24a. The aperture 24a is exposed so as to have a greater length than width. It can be seen that the aperture 24a is of an elongated nature. As such, this will cause a fan-type spray pattern. Additionally, the inner walls of the slot 53 will constrain the release of water into such a fan-type pattern and also, through the use of fluid dynamics, enhance the force of the water as it is emitted through the aperture 24a. It can further be seen that the slot 53 has a greater length and greater width than that of the aperture 24a.

FIG. 5 further shows that the slot 53 has been cut so as to be canted at an approximately 30° angle with respect to horizontal. Once again, this angling of the aperture 24a and its slot 53 further enhances the wide-area spray-type flow pattern. Apertures 24b will have a similar configuration to aperture 24a.

FIG. 6 illustrates the construction of the slot 53 and the aperture 24a in a view taken across lines 6-6 of FIG. 5. As can be seen, the slot 53 is simply formed by cutting through the pipe 22 with a chop saw. As such, a relatively linear aperture 24a is formed when the depth of the cut enters into the interior 40 of the pipe 22. As a result, water can be released through the aperture 24a and be restrained the directed by the wall created by the formation of the slot 53.

FIG. 7 particularly illustrates the configuration of the pipe 22 as positioned against the inner wall 37 of the container 12. It can be seen that the pipe 22 includes apertures 24 arranged in the manner described herein previously. There is a lower portion 60 that is positioned adjacent to the inner wall 37 and an upper portion 62 positioned against the inner wall 37. Portions 60 and 62 are at opposite ends of the pipe 22. A plurality of spacers 64 extend outwardly of the pipe 22 and, as will be described hereinafter, serve to bear against the inner wall 37 of the container 12. Importantly, in view of the flow of water emitted from the apertures 24, a cyclonic path of water flow will occur within the container 12. As such, under certain circumstances, it would be possible for the food items to become wedged between the surfaces of the pipe 22 and the inner wall 37 of the container 12. The spacers 64, which are in the nature of fins, serve to convey the food items or debris in a direction over and away from the pipe 22. As such, this avoids any possible lodging of the food items or debris between the inner wall 37 and the pipe 22 which could serve to impede the water flow from the apertures 24. These spacers or fins also serve to create a desirable laminar flow patterns of the cyclonic flow of water within the container.

FIG. 8 illustrates the end view of the first portion 22a of pipe 22 as positioned against the inner wall 37 of the container 12. It can be seen that the spacers 64 has a fan-shape configuration so as to extend to an outer edge 66. One end 68 of the outer edge 66 is spaced further from the pipe 22 than the opposite end 70 of the spacers 64. A rib 72 extends across the spacers 64 so as to enhance the structural stability of the spacer. A conduit 74 extends from the pipe

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22. Conduit 74 communicates with the interior of the pipe 22. The connector 20 is affixed to the conduit 74 so as to extend outwardly of the container 12. The connector 20 has a fitting 76 thereon which can reserve to receive a water hose. As such, this allows water to be introduced into the interior of the pipe 22.

FIG. 9 further illustrates how the first portion 22a of the pipe 22 is supported against the inner wall 37 of the container 12 through the use of the spacers 64. The upper portion of the first portion 22a of the pipe 22 has a spacer 64 that abuts the inner wall 37 of the container 12. The lower portion 60 will abut a lower portion of the inner wall 37. Spacer 64 extends in parallel relationship between the upper portion 62 and the lower portion 60.

FIG. 10 shows a step in the cleaning of food items in accordance with the present invention. In FIG. 10, the apparatus 10 includes the container 12 and the pipe 22 in the manner described herein previously. A garden hose can be connected to the connector 20. As such, the water hose 90 can deliver water under pressure through the connector 20 and into the interior of the pipe 22. In FIG. 10, it can be seen that the pipe 22 includes the closure 51 at a lower end thereof. The upper end of the pipe 22 should be disposed above the upper edge 18 of the container 12.

In FIG. 10, water has been introduced through the introduced through the apertures 24 of the first portion 22a of the pipe 22 and into the interior 35 of the container 12. Water is also introduced through the apertures associated with the second portion 22b of the pipe 22. The introduction of the water in the cyclonic flow path illustrated in FIG. 3 will cause the food items 33 to generally tumble in the area adjacent to the bottom 16 of the container 12. The fan-type flow of water from the pipe 22 will serve to pressure-wash the tumbling food items 33. Additionally, the debris 38, in the nature of dirt, mud, feathers, blood, or the like, will tend to move upwardly toward the upper edge 18 of the container 12. This is because the debris 38 is generally less dense than water and less dense than the food items 33. The cyclonic flow of water within the container 12 also serves to urge the debris 38 upwardly. The continual flow of water into the interior 35 of the container 12 will continually dilute the debris within the container. The upward flow of water from the apertures of the second portion 22b of pipe 22 will provide a lifting force to the food items 33. Additionally, the apertures having different directions will also further enhance the cyclonic flow path of the water within the container 12. The flow of water through the apertures of the second portion 22b also further enhances the tumbling action of the food items 33 as the container 12 fills with water.

In FIG. 11, after a certain amount of time, the food items 33 will reside adjacent to the bottom 16 of the container 12. The water 92 from the interior 35 of the container 12 overflows the upper edge 18 of the container 12. This overflow will serve to discharge the debris 38 outwardly of the container 12. Ultimately, after period of time, the debris from the food articles will continue to dilute until only clear water resides within the interior 35 of the container 12. After the debris 38 has been discharged over the upper edge 18 of the container 12, and after the water has become sufficiently clear, the water flow can be turned off and the food items 33 removed from the interior 35 of the container 12. The food items will be very clean and suitable for use without further treatment. For example, when crawfish is the crustacea used in the system of the present invention, the crawfish will be almost polished completely clean. As such, they can be passed for boiling during the crawfish boil. As such, the

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system of the present invention avoids the requirement for meticulously manually washing the food items. There is no need to fill buckets with food items and then use a water hose with the bucket in order to spray the food items and further dump the bucket after several sprayings. The present invention allows the food items to be cleaned in a relatively short period of time.

FIG. 12 is a plan view showing an alternative embodiment of the washing system 90 of the present invention. The washing system 90 includes a container 92 having an interior volume 94 and an upper edge 96. A pipe 98 extends over the upper edge 96 and has a first portion 100 that extends vertically downwardly from the upper edge 96 and generally adjacent to the inner wall of the container 92. This first portion 100 of pipe 98 will have a configuration similar to that of the previous embodiments. In FIG. 12, it can be seen that there are conduits 102, 104 and 106 that radiate outwardly from the first portion 100. As with the previous embodiment, the conduits 102, 104 and 106 have a plurality of apertures formed thereon. As can be seen, there are first set of apertures formed on the conduits generally adjacent to the first portion 100 of the pipe 98 and another set of apertures formed adjacent to the distal end of the conduit away from the first portion 100 of pipe 98. The configuration of this radiating array of conduits 102, 104 and 106 further causes the lifting force created by water being emitted from the apertures to be delivered over a wider area of the bottom of the container 92. In normal use, pipe 98 is simply clamped to the top edge 96 of the container 92 such that the first portion 100 extends vertically downwardly and the conduits 102, 104 and 106 extend across the bottom of the container 92.

FIG. 13 shows another alternative embodiment of the washing system 110 of the present invention. In the embodiment shown in FIG. 13, there is a connector 112 that is located at the bottom of the first portion 114 of pipe 116. The second portion 118 of pipe 116 extends across the bottom 120 of the container 122. Water is introduced through the connector 112 from a water hose or other type of water conduit. As such, the pressurized flow of water will be redirected immediately into the second portion 118 and ultimately into the first portion 114. The connector 112 can be integrated as part of the assembly of the container 122. As such, FIG. 13 shows the fixed washing system rather than the removable washing system of the previous embodiments.

In the present invention, the container can be in the form of any container suitable for washing the food items. This can include buckets, tubs, pots or other containers. The containers can be constructed of plastic, stainless steel or other materials. In certain embodiments, the container can additionally be suitable for preparing the food items (such as boiling crawfish or other seafood) and other components of the present invention can be made of materials suitable for withstanding the associated higher temperatures.

The present invention provides great portability to the apparatus of the present invention. In the present invention, the pipe and the connector are not rigidly affixed to the container. As such, complex assembly procedures are not required. In the simplest embodiment, is only necessary to drape the pipe over the upper edge of the container and then turn on the water so that the pipe will spray the water into the container. In other circumstances, it may be necessary to maintain the fixed vertical orientation of the pipe within the container. As such, either the pipe or the connector can be clamped to the container. After use, the pipe is simply removed and stored for later use. The apparatus the present

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invention offers a very small footprint for merchandising and display in stores. The only assembly that is required is to connect a water hose to the connector and, possibly, affixing the connector to the container by the use of the clamp. The apparatus the present invention can be utilized in association with a wide variety of shapes and sizes of containers. Additionally, the pipe and the connector can be easily removed for the purpose of cleaning, sanitizing, and repair.

The foregoing disclosure and description of the invention is illustrative and explanatory thereof. Various changes in the details of the illustrated construction can be made within the scope of the appended claims without departing from the true spirit of the invention. The present invention should only be limited by the following claims and their legal equivalents.

I claim:

1. An apparatus for cleaning game, vegetables, fruit, fish or crustacea in a container, the apparatus comprising:

a pipe having a first portion and only one second portion, the second portion extending generally transverse to said first portion, at least one of the first and second portions having a plurality of apertures formed through a wall thereof, said plurality of apertures adapted to direct a flow of water in a cyclonic path in the container, said pipe being removably positioned in the container, the second portion extending only from a lower portion of the first portion; and

a connector connected to said pipe, said connector adapted to connect to a water hose or water conduit so as to allow water to be introduced into and through said pipe.

2. The apparatus of claim 1, said first portion extending generally vertically, said second portion extending horizontally.

3. The apparatus of claim 1, said plurality of apertures comprising a first set of apertures and a second set of apertures, said first set of apertures directing a flow of water in a direction different than the direction of a flow of water from said second set of apertures.

4. The apparatus of claim 1, each of said first and second portions of said pipe having the plurality of apertures.

5. The apparatus of claim 1, said plurality of apertures adapted to direct the flow of water upwardly.

6. The apparatus of claim 1, further comprising: a fastener affixed to said pipe or to said connector, said fastener adapted to removably affixing said pipe to the container.

7. The apparatus of claim 6, said fastener being a clamp.

8. The apparatus of claim 1, said pipe having a plurality of spacers extending transversely to a longitudinal axis of the first portion of said pipe, said plurality of spacers adapted to generally abut a wall of the container.

9. The apparatus of claim 1, said connector being affixed to an upper end of the first portion of said pipe.

10. The apparatus of claim 1, said connector being affixed to a lower end of said first portion of said pipe.

11. An apparatus for cleaning game, vegetables, fruit, fish or crustacea, the apparatus comprising:

a container having an interior volume defined by a wall, said container having a bottom and an upper edge;

a pipe having a first portion and a second portion, said second portion extending generally transverse to said first portion, at least one of said first and second portions having a plurality of apertures formed through a wall thereof, said second portion extending across at least a portion of said bottom of said container, said

plurality of apertures adapted to direct a flow of water in a cyclonic path in the container, said pipe being removably positioned in the interior of said container, said container having an outlet formed above the plurality of apertures of said pipe; and

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a connector connected to said pipe, said connector adapted to be connected to a water hose or conduit so as to introduce water into and through said pipe.

12. The apparatus of claim **11**, said pipe being clamped to said container at or adjacent to said upper edge of said container.

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13. The apparatus of claim **11**, further comprising:

a fastener affixed to said pipe or to said connector, said fastener removably affixing said pipe to said container.

14. The apparatus of claim **11**, further comprising:

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a water hose affixed to said connector, said water hose extending outwardly exterior of said container.

15. The apparatus of claim **11**, said first portion extending generally vertically, said second portion extending horizontally.

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16. The apparatus of claim **11**, said plurality of apertures comprising a first set of apertures and a second set of apertures, said first set of apertures directing the flow of water in a direction different in the direction of the flow of water from said second set of apertures.

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17. The apparatus of claim **11**, said second portion of said pipe comprising a plurality of conduits radiating outwardly from a lower end of said first portion.

18. The apparatus of claim **11**, said connector being affixed to an upper end of said first portion of said pipe.

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